

EXPERIENCES IN COASTAL FISHERIES MANAGEMENT IN BRUNEI DARUSSALAM

by

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1. Introduction

Brunei Darussalam lies close to the equator on the northwest coast of the island of Borneo, between latitude 4 08 N and 5 05 N longitude 114 04 E and 115 22 E. Brunei Darussalam has a land area of 5,765 Sq Kilometres with a coast line of 130 kilometre bordering the South China Sea (Map 1).

In 1982, following many other coastal states, Brunei Darussalam declared a 200 nautical miles Brunei Fisheries Limits. This covers an area of about 35,600 Sq kilometres. With this large fishing area under the control of Brunei Darussalam, the Department of Fisheries have extensive fishery resources to manage.

The Fisheries Department was established in 1966. The Department is responsible for providing the infrastructure which are essential for the development of capture fishery such as the building of the Fish Landing Complexes.

The purchase of the 27 metre of a new fisheries research and training vessel which are capable of going to the 200 nautical miles limits as in the current 5 Years Development Plan emphasis has been placed towards further commercial exploitation of the marine fish resources and also other sectors such as aquaculture development.

In capture fishery, the strategy has been directed mainly towards increasing fishing effort and increasing effectiveness of the various fishing units. This would include exploiting offshore fish resources like tuna and other small pelagic fishes.

In 1995, the number of fishermen licensed by the Fisheries Department are 1,412. These include the part time fishermen, though the actual number of part time fishermen is suspected to be much higher. This is because under the present Fisheries Acts, only fishermen who intended to sell their catches are required to be licenced by the Fisheries Department.

Table 1. Number and age structure of fishermen in Brunei Darussalam in 1995

Age	Full-time	Part-time
Less than 20	13 (2.2%)	62 (4.4%)
20-40	230 (39.8%)	612 (43.3%)
40-60	224 (38.7%)	494 (35.0%)
Over 60	102 (19.3%)	138 (17.3%)
Total	579	1,412

2. Current status of the capture fishery

Since the purchase of the 15 metre research and training vessel, KP Lumba-Lumba in 1978, the Fisheries Department have conducted a comprehensive demersal survey (1979-1981) in which the results were used as a guideline to develop the demersal fishery. In 1984, four licenced trawlers started operation in Brunei Darussalam waters. Further demersal survey were conducted in 1990-1991 to reassess the status of the demersal stocks after the introduction of the initial batch of trawlers. Further assessment of the stocks were made through log books supplied by the operators and through trawl monitoring surveys in selected areas.

The first pelagic survey was conducted in 1989 to assess the pelagic stocks, its status and potential for development. Prior to this, a few purse seiners had already been licensed using the extrapolated data from the neighbouring countries. In 1996 (March and September), another survey was again conducted to assess the present pelagic stocks.

With these survey results, the Fisheries Department has been able to develop and manage the capture fisheries through phased introduction of trawl and purse seine licenses. Since 1984, after the proclamation of the Brunei Fishery Limits Act in 1983, the Fisheries Department have drawn up 3 zones to cater for the different types of fisheries, according to either engine power or size of the fishing vessels. These zones are further subdivided into demersal and pelagic sectors with allocations of fish resources in each zones according to maximum economic yield (MEY) of the resources in each zone are as follows:-

Type of fishery	MEY (Metric tons)
Coastal	
- Zone 1 (0-3 nm) (exclusive for artisanal fishermen using outboard powered fishing boats)	3,800
Demersal	
- Zone 2 (3-20 nm) (with engines of less than 350 hp)	5,570
- Zone 3 (20-200 nm) (with engines of more than 350 hp)	3,030
Pelagic	
- Zone 2 (3-20 nm) (vessels with LOA of less than 20 metres)	2,700
- Zone 3 (20-2000 nm) (LOA of more than 20 metres)	4,900
Total	20,000

3. Future strategies and programmes in the capture fisheries

The present contribution from the commercial capture fisheries is still below the Department possible calculated level. The Department has looked into two methods in which the Department can assist the local fishermen in increasing the local fish landings from the capture fisheries.

3.1 Increasing effort

3.2 Increasing effectiveness

A. Increasing effort for the artisanal fishermen

- i. Construction of artificial reef**
- ii. Construction of a number launching landing facilities for outboard powered boat around the country.**
- iii. Resource assessment of untraceable grounds and identification of new reefs area.**
- iv. Introducing new fishing method using baited traps and vertical handline.**

B. Increasing effectiveness for artisanal fishermen

- i. Assisting the local fishermen in overcoming their present problems of not catching fish as expected.**
- ii. Assisting the fishermen in catching fish using ring-net at night by means of light.**
- iii. Assisting the local fishermen with the labour saving devices to assist them in their operation. The devices include line hauler, net hauler, Global Positioning System (GPS) and fish finder.**

C. Increasing effort for the commercial fisheries

- i. Encouraging more fishing days**
- ii. Introduction of freezing and storage facilities**
- iii. Introduction of Squid fishing in Brunei Darussalam waters**
- iv. Deployment of fish aggregating devices (FADs)**
- v. Developing the deep sea fishing**

- D. Increasing effectiveness for the commercial fisheries
 - i. Assisting the purse seiners operators in the technical know-how for right operation.
 - ii. Utilization of new marine engines for trawlers.

4. Present management practice of the coastal fisheries in Brunei Darussalam

4.1 Agencies responsible for the fisheries sectors

Since 1966, all fisheries matter were under the supervision of the Fisheries Department, headed by the Director. This is the beginning of the new era of the fisheries activities. In 1972 and 1973, the Fisheries Act and Regulations were gazetted. In 1982, Brunei Darussalam proclaim the 200 nautical miles Brunei Fishery Limits Act.

4.2 Other agencies responsible in enforcing the Fisheries Act of Brunei Darussalam

Apart for the Fisheries Department, there are two other agencies which are empowered to enforce the Fisheries Act. The Royal Brunei Police Force and the Royal Brunei Navy have the capability in terms of man power and equipments such as patrol vessels.

4.3 How do we manage the coastal fisheries resources

The main instruments for managing the fisheries resources are the Fisheries Act, Chapter 61 and Fisheries Limits Act, Chapter 130.

The Fisheries Department as gazzetted with in the Fisheries Act, uses the licensing of fishing gears as one of the management measures within Brunei Darussalam. The licensing chargers for each fishing gears are different and are not related to the amount of resources available. The Department of Fisheries also enforce closed areas for certain fishing operation.

The area for the small scale artisanal fishermen are not restricted. However the commercial trawlers, purse-seiners and other inboard engines vessels are restricted and the number of licenses issued are in accordance with the availability of the fisheries resources in Brunei Darussalam waters.

Following this management practices, the Fisheries Department is administratively zoning the Brunei Fishery Limits into 3 zones as in **Map 2**. Zone 1 (0-3 nm) is for the artisanal fishermen. Zone 2 (3-20 nm) are allocated to trawlers, purse-seiners and other fishing vessels with engine power of less than 350 hp and

purse-seiners of less than 20 metres in overall length. Zone 3 (20-200 nm) is for fishing vessels higher engines and size than zone 2.

4.4 Past experiences in enforcing the fisheries acts and regulations

4.4.1 Encroachment of foreign fishermen

Since 1984, there are about 38 foreign fishing vessels have been caught fishing in Brunei Darussalam waters. This involves about 246 fishermen, most of them comes from neighbouring countries. However, there are also cases where the fishing boats came from Taiwan, Vietnam and Indonesia.

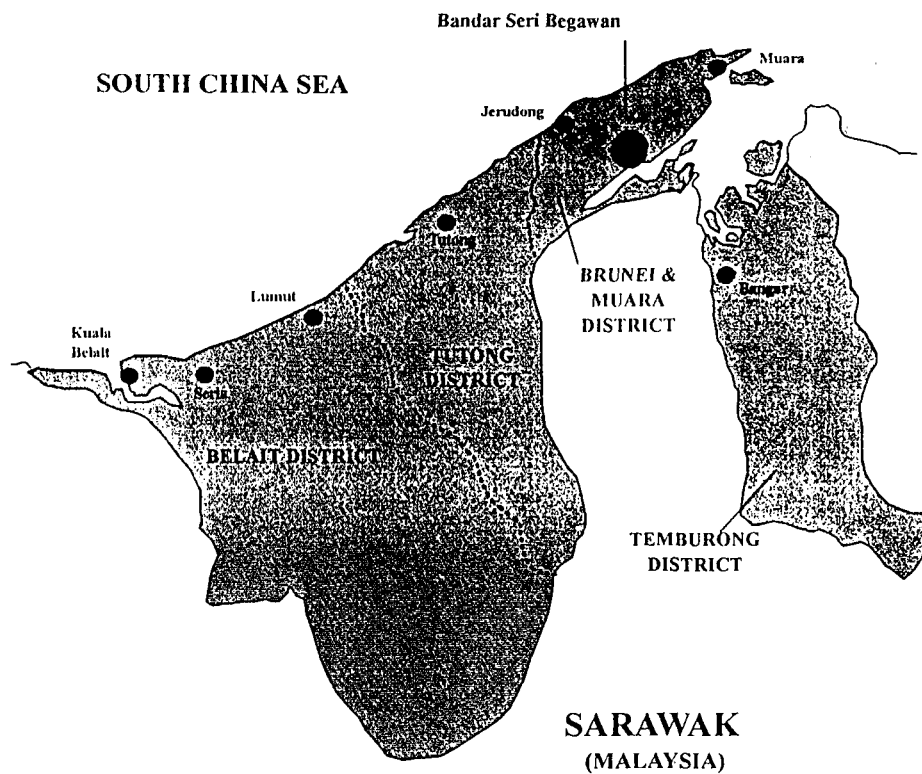
Most of the foreign fishing encroachments are being dealt with tough action such as refer to court and normally with higher fines to the master. Boat, fishing appliances and fish caught is most ordered to be confiscated.

4.4.2 Various offenses by the local fishermen

The local fishermen have also been apprehended for various offenses under the Fisheries Act. Normally actions taken, depending on the offenses are by means of warning, compounding and court action for repeated offenses. Since 1990 the Department have only 9 cases involving the local fishermen.

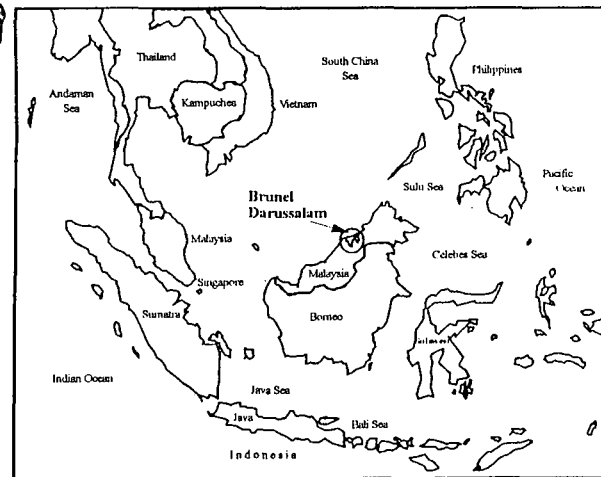
5. Discussion

The Fisheries Department, Ministry of Industry and Primary Resources, Brunei Darussalam continues to manage the resources while at the same time tries to increase the development of the capture fisheries. The main strategy has always been exploitation up to the MEY which is taken at about 20% below the MEY. In this regard a lot of work still has to be done in order to reduce imports. The Department have identified a few problems and a number of projects are currently being implemented to increase production.

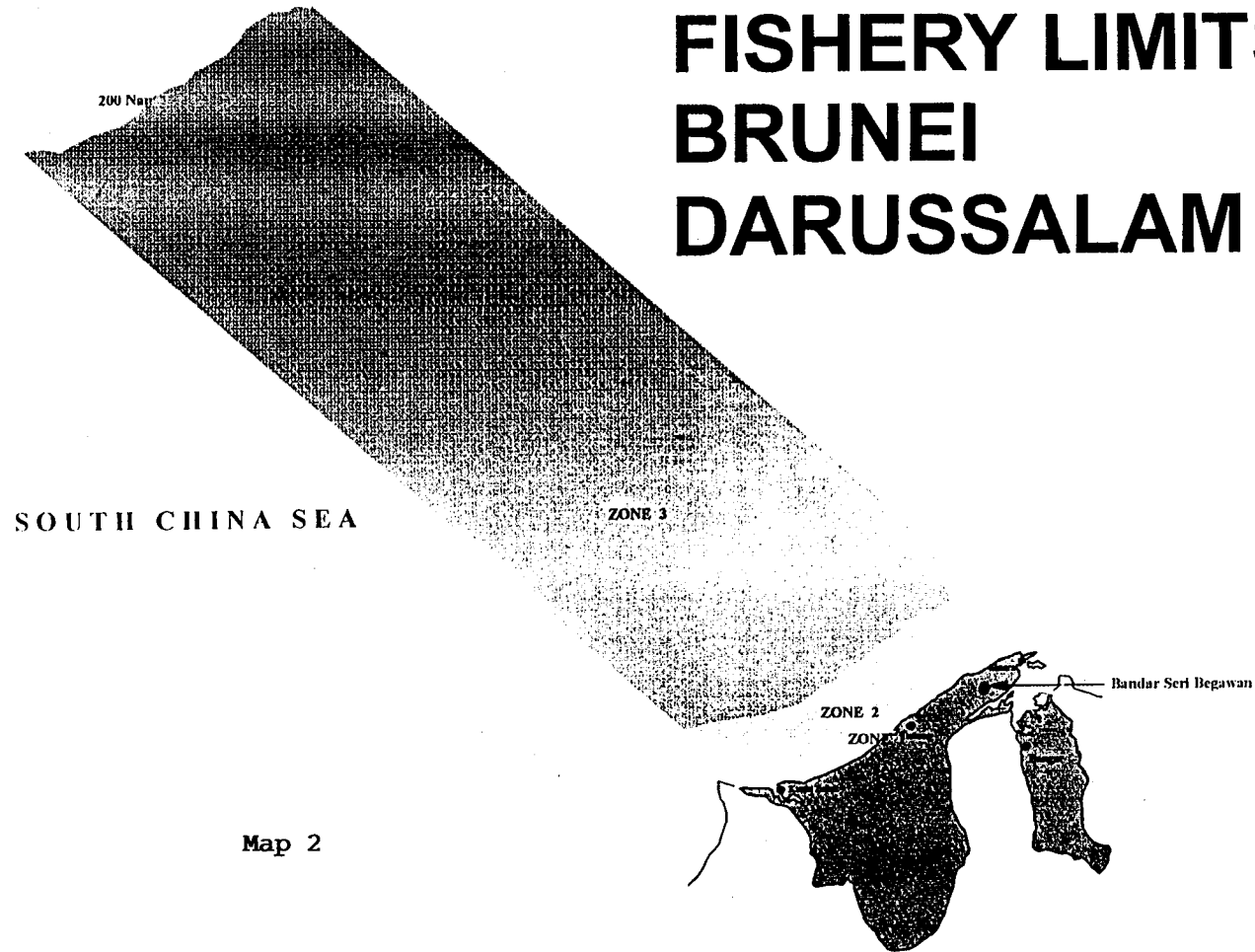


BRUNEI DARUSSALAM

Map 1



FISHERY LIMITS OF BRUNEI DARUSSALAM



Map 2